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ABSTRACT

This paper suggests and examines four ways in which the "Taxonomy of Educational Objectives" needs reforming. When a teacher assumes that all educational objectives belong to one of this taxonomy's three categories--cognitive, affective, or psychomotor--then trying to fit certain important kinds of objectives into the taxonomy becomes very puzzling; for example, social and problem-solving skills. These skills are of major importance in school learning situations but are not included in the taxonomy in any systematic way. They should be arranged so that the basic social awarenesses and kinds of responses are made clear. Suggestions should be presented for developing and evaluating these skills so that teachers can have a guide for organizing classroom activities aimed at developing these skills. If the taxonomy included a separate domain of problem-solving skills, clearly indicating their interrelationships in the overall process of problem-solving, then their importance in the eyes of curriculum workers and teachers would be greatly heightened. The psychomotor domain of the taxonomy needs to be completed. This domain should include motor and manipulatory skills building upon the basic awareness and responses essential to human learning. There is also a need for an adequate underpinning of basic awareness in all domains of educational objectives. This should be corrected by definitely including awareness as the first level of the cognitive domain. The fourth area of difficulty in dealing with the taxonomy is the lack of precision and thoroughness in analyzing the affective domain. The usefulness of the taxonomy could be enhanced by the inclusion of subtaxonomies both of emotional and imaginal skills. (DMT)

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THE TAXONOMY OF EDUCATIONAL OBJECTIVES NEEDS A REFORMATION

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BIOGRAPHICAL SKETCH

James S. Masters has been an Associate Professor of Education at Rocky Mountain College, Billings, Montana, since 1970. His previous teaching experience was as an Assistant Professor of Education at the University of Missouri at Kansas City and as a junior high school common learnings teacher in the Kansas City, Mo. Public Schools. He received his B.A. and M.A. in history at the University of Kansas, Lawrence (1949 and 1950) and his Ph.D. in Education with a concentration in curriculum and instruction from the University of Missouri at Kansas City (1963). Since first becoming acquainted with Bloom's Taxonomy in the late 1950's, he has attempted to use it in his own teaching and in helping prospective teachers plan for their teaching. It is largely on the basis of this personal experience with the Taxonomy that this paper is written.

THE TAXONOMY OF EDUCATIONAL OBJECTIVES NEEDS A REFORMATION

Introduction:
The Challenge to Make
Educational Objectives More Useful

To teachers, supervisors and curriculum workers it is evident that educational objectives are a vital aspect of the processes of curriculum and instruction. Learning experiences and materials, curricular organization, evaluation procedures all depend on usefully defined learning objectives, as Ralph W. Tyler[1] and others have long pointed out. In the past twenty years great strides have been taken in making educational objectives productive for all who use them. The Taxonomy of Educational Objectives,[2,3] part of which was first published in 1956, and the whole behavioral objective approach to curriculum work have served as forceful stimulants to educational thought. The task is never done, however; the need continues to make educational objectives more adequate, reasonable and useful for educators.

Four Difficulties in Using the Taxonomy

When one attempts to use educational objectives as defined by the Taxonomy of Educational Objectives,[2,3] at least four

major difficulties arise. (1) When a teacher assumes that all educational objectives should belong to one of the Taxonomy's three categories of objectives--cognitive, affective, or psychomotor--then trying to fit certain important kinds of objectives into the Taxonomy becomes very puzzling; for example, social skills and problem-solving skills. When it comes to these skill areas, the suggestions made in the Taxonomy for developing and evaluating objectives in the three domains do not appear to be directly applicable. (2) To the detriment of all other learning areas, psychomotor learning has been de-emphasized. This results partly from the fact that this domain of learning was placed third in the development of the divisions of the Taxonomy and therefore seemed to be relegated to a less important position than cognitive and affective learning. It also results from the fact that Handbook III: Psychomotor Domain has never been completed and published, even though the idea for the Taxonomy began in 1948.[4] (3) In all areas of the Taxonomy except the affective domain an adequate first level of awareness and basic response has been left out. This is a serious lack because it fails to give help to primary level teachers and curriculum workers in much of the most basic work they are called upon to do. (4) The taxonomical organization of the affective domain of the Taxonomy frequently sounds like a re-doing of the cognitive domain in different terms. The affective domain also lacks precision and displays an intellectual bias, especially in regard to emotional skills and imaginal skills.

Need to Include Social Skills and Problem-Solving Skills as Separate Categories

Developing social skills is one of the major areas of learning which schools hold important. The schools hope to help children learn to communicate clearly to others, to listen to others and understand their meanings, to be aware of how others are feeling and respond appropriately to their feelings, to be aware of how one's own words and actions are affecting others, to be aware of body-language and respond appropriately, to develop skills of working in a group and of cooperating with others on a project, and so on. These skills are important enough to be considered a separate domain of learning, whereas at present they are not included in the Taxonomy in any systematic way. They should be arranged in a taxonomy so that the basic social awarenesses and kinds of response are made clear and so that the relationship of the more complex social skills to the basic ones is spelled out. Suggestions should be made for developing and evaluating these social skills at various levels, so that teachers can have a sound guide for organizing their classroom activities aimed at developing social skills.

The skills of problem-solving (learning by inquiry) have long been proclaimed as major objectives which schools hope children will learn. The various steps in problem-solving have been analyzed and elucidated in countless textbooks on methods of teaching. The skills involved in problem-solving do not

belong exclusively in any one of the traditional domains of educational objectives. Not only do the steps in problem-solving involve cognitive skills, but problem-solving in a more global sense involves reading skills, library and research skills, interviewing and other communications skills, laboratory skills, mathematical skills, skills in using tools, machines and other equipment. If the Taxonomy included a separate domain of these problem-solving skills, clearly indicating their interrelationships in the overall process of problem-solving, their importance in the eyes of curriculum workers and classroom teachers would be greatly heightened.

Need to Complete the Psychomotor Domain of the Taxonomy

The psychomotor domain of educational objectives has not yet put in its appearance, even though it has been called for since 1948. In the thinking of those who have been influenced by the taxonomical approach to objectives, this cannot fail to give the psychomotor objectives a second or third class status as far as education is concerned. This has been extremely unfortunate in American education. Cognitive learning depends heavily on a sound sensorimotor base, as Piaget and his followers have shown.[5] A young child's cognitive growth can be seriously stunted by being plunged too soon into strictly cognitive activities without an adequate basis of sensorimotor experiences and experiences in

performing concrete operations. Yet how often have teachers of young children (and even of those not so young) felt guilty about "wasting time" in providing sensorimotor and concrete operations experiences. At best they have often been considered only frills or gimmicks to catch the attention before getting down to the "real business" of schooling.

Psychomotor skills (perhaps sensorimotor skills would be a better term to use) need to begin with the basic level; that is, with learning to be aware of one's body and its needs and possibilities. Various kinds of self-awareness development programs in recent years have shown how unaware most of us actually remain of our own bodies even into adulthood. At times it has seemed almost as if there were a conspiracy to pretend that we do not have bodies at all. This unawareness cheats us not only of developing motor and sensory potentialities but of building an adequate base for cognitive growth as well. We need to learn awareness of ourselves, and the taxonomy of psychomotor educational objectives needs to begin here. Building on sensorimotor awarenesses, each learner needs to learn appropriate and productive responses to his body and its potentialities. These responses can develop through the years into healthy, safe, orderly living habits over which the person has flexible control. This is in contrast to the compulsive, destructive, rigid living habits which make up the routines of many people.

Sensory awareness also includes awareness of the environment and its many stimuli. A taxonomy of psychomotor skills needs to

include these kinds of awareness, too, and the development of graceful, productive bodily responses appropriate to them. Thus the psychomotor domain should include all sorts of motor and manipulatory skills, building upon the basic awareness and responses which are so essential to human learning.

Need for Underpinning all Parts of the Taxonomy with a Basic Awareness Level

The discussion above of the psychomotor domain calls attention to the need for an adequate underpinning of basic awarenesses in all domains of educational objectives. The Affective Domain Taxonomy[3] begins with receiving (attending) and with awareness. The Cognitive Domain Taxonomy[2], however, begins with knowledge; that is, with remembering. Remembering what? Of course, it is assumed that learners must have had experiences and awarenesses which have provided them with the elements of that which they are expected to remember at the level of knowledge. This basic awareness level, however, is not included in the Taxonomy. This omission has practical consequences in classrooms, especially among teachers and curriculum workers of younger school children. Often elementary school teachers state the objectives of the learning experiences which they plan as "To become aware of..." or "To gain experience with..." Such learning experiences do, indeed, provide a most essential

element in the young child's learning processes. But where do they fit into the Taxonomy? They do not fit, because the Taxonomy begins at a higher level, knowledge. This can leave teachers at a loss when it comes to using the Taxonomy. They may feel either that they do not understand the Taxonomy or that basic awareness experiences are not very important or that the cognitive domain's handbook is really not very useful for them. Again this is unfortunate and should be corrected by definitely including awareness as the first level of the cognitive domain.

Need to Make the Affective Domain More Inclusive and Precise

A fourth area of difficulty in dealing with the Taxonomy is its lack of precision and its exclusivity in analyzing the affective domain. The affective domain as defined in the Taxonomy centers largely on those affective behaviors which have to do with developing a set of values and of making commitments. In its upper levels it sounds very much like the synthesis and evaluation levels of the cognitive domain. This similarity may be necessary in organizing the valuing aspects of the affective domain.

Valuing, however, is not all there is to affective behavior. At least two other aspects of affective behavior are passed over very lightly, if they are touched on at all, in the affective domain's handbook. These have been called emotional skills and

imaginal skills by Richard F. Jones, whose discussion of them deserves a wide hearing among educators.[6] Jones says, "A credible psychology of instruction must at the very least be suggestive in respect to three types of students: those who are predisposed to lead with their thoughts, those who are predisposed to lead with their feelings, and those who are predisposed to lead with their fantasies."[7] The cognitive domain of the Taxonomy helps teachers in working with the first type of student mentioned by Jones. The affective domain needs to be expanded considerably, at least in order to help teachers teach the second two types. Beyond this, however, all learners would profit considerably in all areas of learning by receiving more help in school in developing emotional and imaginal skills. Cognitive, affective and psychomotor behavior are not separate from one another in reality. They are continually interacting with one another, either to their mutual benefit or detriment.[8,9]

The Development of Emotional Skills and Imaginal Skills

Emotional skills, too, are based on a foundation of awareness, an awareness of the emotional content of one's own psyche, of what Anthony Storr calls the inner world.[10] Learning to be at home in one's inner world is not a small task. The inner world is vast. Heraclitus said, "You could not discover the limits of soul, even if you traveled every road to do so; such is the

depth of its meaning."[11] The educational processes of our Western Civilization have centered so much on teaching us how to deal with our outer world that the inner world has been largely neglected. The content of the inner world is often not rational--at least not according to the rationality of the outer world--and is frequently disturbing and frightening. Because of this, learners in Western Civilization have generally learned to deal with it by ignoring it, repressing its content, or bravely controlling their reactions to it. A tremendous amount of human energy in Western Civilization has been devoted to keeping the lid on the psyche. What a waste! Much of the restraining energy could be freed for more life-enhancing and, as George Leonard says, ecstatic purposes.[12]

Schools and teachers should be able to help children learn to be aware of their emotions and then to make appropriate responses to them. Wishes, wants, likes, dislikes, desires, hates, anger, bliss--one appropriate response to these emotions is to accept the fact that they are there, that one is not bad for having them, that one need not feel guilty on account of them, that they are a common human experience. Accepting emotions and then dealing with them in active fantasy can siphon off much of the threat which emotions can have. Teachers should be able to help children learn these emotional skills. All children should have the opportunity to learn how to put their emotions to productive use in valuing, willing, choosing, making commitments,

acting wisely. The Taxonomy's affective domain needs to be sharpened up in the helps it gives to teachers in providing learning experiences which develop emotional skills.

Adequate development of imaginal skills differs not from other areas of learning in that it too depends first of all on awareness; in this case, awareness of the images of the inner world. These images appear in day-dreams, fantasies, reveries, dreams. Our culture places little value on developing an awareness of them. (Stop day-dreaming and pay attention!) Rather than learning to pay attention to the images of the inner world, we learn to ignore, repress, and feel disturbed, if not guilty, about them. In other words, we do not learn really to control and use our fantasies in productive ways. We either ignore them, deal with them neurotically, or act them out in uncontrolled ways.

Richard F. Jones emphasizes the importance of learning to control both our inner images and emotions: "Now, it is true that emotions and fantasies can obstruct learning <u>when they are uncontrolled</u>. Uncontrolled emotions and fantasies obstruct almost all aspects of learning. The other half of this truth is that the control of emotions and fantasy is substantive in one kind of learning (the attainment or discovery of knowledge) and preparatory to another kind of learning (the formation or invention of knowledge)... The construction of knowledge, as distinct from the attainment of it, presumes freedom and skill

in the sharing and use of controlled emotion and imagery. We say then that the children are involved, are making the lessons their own, are aroused, excited, interested, original, inventive, and so on."[13]

In order to be creative, inventive, constructive in learning processes all learners need help from teachers and schools in developing the abilities to use their inner images constructively, to control them, to share them, to connect them appropriately with their outer world. Teachers need a taxonomy of imaginal skills. They need this as a tool to help them in organizing their learning experiences so that children will no longer be cheated out of the resources of their inner worlds.

Thus, the usefulness of the affective domain of the Taxonomy would be enhanced immeasurably by inclusion of sub-taxonomies both of emotional and imaginal skills.

Conclusion

The Taxonomy of Educational Objectives has been a valuable tool in American education for many years and still has the potential for many useful years of service in the future. For it to fall into disuse because it was not reformed would be a great loss. Reformation is never completed. It is a challenge to the American educational profession to reform the Taxonomy. This paper has suggested at least four major ways in which this

reformation needs to take place: (1) the need to include social skills and problem-solving skills as separate categories; (2) the need to complete the psychomotor domain of the Taxonomy; (3) the need for providing an underpinning of a basic awareness level in all parts of the Taxonomy; and (4) the need to make the affective domain more inclusive and precise.

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